

USSN 10/808,157  
Attorney Docket No. 2003-0022-01

### Remarks

Claims 1-127 are pending in the above-captioned United States Patent Application. Claims 13-28, 35-42, 55-70, 77-84, 97-112, and 119-126 have been withdrawn. Claims 29-34, 71-76 and 127 are allowed. Claims 1-4, 8, 12, 43-46, 50, 54, 85-88, 92, and 96 stand rejected, and claims 5-7, 9-11, 47, 49, 51-53, 89-91, and 93-95 are objected to. Applicants have cancelled claims 4, 8, 12, 46, 50, 54, 88, 92, and 96.

### The 35 U.S.C. § 102 Rejections

Claims 1, 43 and 85 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,801,891 to Lloyd (hereinafter, *Lloyd*).

Applicants have amended claims 1, 43 and 85 in order to more particularly point out and claim the invention. Applicants have also amended claims 2-6, 7, 9-11, so as to reflect the amendments made in Claim 1. Applicants have also amended Claims 44-49 and 51-53 so as to reflect the amendments made in independent claim 43.

As amended, claim 1 relates to a high power narrow band, high repetition rate laser light source system. The system comprises a line narrowing unit having a fast moving angularly positionable tuning mirror. The line narrowing unit includes a mirror mounting frame comprising a first material and a relatively flat mounting surface area. The line narrowing unit also has a reflective optic comprising a second material having a coefficient of thermal expansion different from that of the first material of the mounting frame. The line narrowing unit also includes at least two attachment points of attachment between the mounting frame and the reflective optic on the mounting frame surface, and at least one flexure mount formed in the mounting frame that is flexible in a flexure axis corresponding to a longitudinal axis of thermal expansion of the mounting frame and the reflective optic, positioned at one of the at least two points of attachment.

*Lloyd* relates to a flexure structure for mounting an element such as a mirror in an optical device to a frame such as a telescope support structure that includes a flexure blade defining a fork having three coplanar tines. A mounting pad is located on the center tine for attaching the flexure blade to the mirror. A pair of mounting feet are located on the outside tines for attaching the flexure blade to the frame. The relative sizes

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of the tines being such that zero moment is applied to the mirror by the flexure structure when the mirror is displaced relative to the frame.

Applicants respectfully submit that *Lloyd* does not disclose or suggest each element of Applicants' claimed invention, as a line narrowing unit for a high power, narrow band laser light source is neither shown nor suggested by *Lloyd*. Applicants contend that *Lloyd* relates to a flexure mounting structure useful for mounting a mirror element in a telescope (*see, e.g.*, 1: 7-10 of *Lloyd*) and would not be capable of being used in a laser system such as Applicants' high power, narrow band laser light source system.

Applicants further submit that one of skill in the art would not be motivated to combine the mirror mounting apparatus of *Lloyd* with a high power narrow band, high repetition rate laser light source system because the mirror mounting apparatus of *Lloyd* would not provide adequate characteristics to be able to hold a high power narrow band laser light source to a specific wavelength that would be needed for applications such as lithography. Although the mirror mount of *Lloyd* may be sufficient for telescope systems, it would not be stiff enough in the direction perpendicular to the mirror surface for laser lithographic applications. Thus, the forces exerted on the optical element in *Lloyd*, if it were utilized in a laser system such as the Applicants' system, would introduce discernable and unacceptable effects on such things as beam profile, wavelength, bandwidth or the like. These effects are unacceptable for applications such as lithography, as described in Applicants' specification. An advantage of Applicants' claimed invention is to prevent the introduction of discernable and unacceptable effects on such things as beam profile, wavelength, bandwidth of the laser light.

Applicants submit that at least for the reasons above, Claim 1 is in condition for allowance, and further submit that Claims 43 and 85 are allowable for at least the same reasons as Claim 1. Accordingly, Applicants submit that Claims 2, 3, 5-7, 9-11 which depend from Claim 1, Claims 44, 45, 47-49, and 51-53 which depend from Claim 43, and Claims 86, 87, 89-91, and 93-95 which depend from 85, are allowable.

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The 35 U.S.C. § 102(e) Rejections

Claims 1, 2, 43-46 and 85-88 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,661,962 to Calvet et al. (hereinafter, *Calvet*).

As similarly asserted above in connection with *Lloyd*, Applicants submit that *Calvet* neither discloses nor suggests a line narrowing unit of a high power narrow band, high repetition rate laser light source system, where the line narrowing unit has a fast moving angularly positionable tuning mirror. Thus, Applicants assert that *Calvet* does not disclose or suggest each element of Applicants' claimed invention.

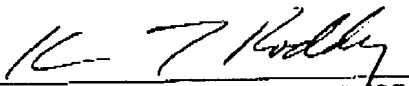
Applicants submit that, at least for the reasons above, Claims 1, 43, and 85 are in condition for allowance. Accordingly, Applicants submit that Claims 2, 3, 5-7, 9-11 which depend from Claim 1, Claims 44, 45, 47-49, and 51-53 which depend from Claim 43, and Claims 86, 87, 89-91, and 93-95 which depend from 85, are allowable.

Conclusion

For at least the above reasons, Applicants submit that claims 1-3, 5-7, 9-11, 29-34, 43-45, 47-49, 51-53, 71-76, 85-87, 89-91, 93-95, 113-118, and 127 are in condition for allowance.

Applicants do not believe that any other fees or charges are due for the continuing prosecution of the above captioned U.S. Patent Application, but in the event that there are the Commissioner is hereby authorized to charge the Deposit Account of applicants' assignee, Cymer, Inc. Deposit Account No. 03-4060 for any such fees or charges.

Respectfully submitted,

  
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